887-09

SITE PLAN REVIEW
67 A STREET
WASTEWATER MANAGEMENT FACILITY
RESPONSE TO COMMENTS
SEPTEMBER 24, 2009

I. RESPONSES TO TOWN INTER-DEPARTMENTAL COMMENTS

Framingham Department of Building Inspection Comments – Per Letter Dated 9/17/09:

- The DPW is addressing and incorporating comments included in the 9/17/09 letter from the Town of Framingham Inspectional Services Division's Department of Building Inspection.

Framingham Board of Health Comments – Per Letter Dated 9/22/09:

- The DPW met with the Board of Health on September 9, 2009 and is in receipt of their written comments. Responses to their comments on odor control and noise and vibration are presented later in this document. In addition, DPW will provide the soil boring and soil testing results conducted at the site to the Planning Board and Board of Health.

Framingham Conservation Commission Comments – Per Letter Dated 8/19/09:

- DPW has conducted site visits with the Conservation Commission, had a pre-application meeting with the Commission in August, submitted a Notice of Intent on September 4, 2009, and had the first public hearing on the project on September 16, 2009. DPW is in the process of responding to comments received on the Notice of Intent and received at the public hearing.

Framingham Community and Economic Development Comments – Per Letter Dated 9/10/09:

- Community and Economic Development noted that on the original site plan submission of August 11, 2009, the Wastewater Management Facility was located within the 100 year flood zone and would require filing an application with the Zoning Board of Appeals. Based on subsequent comments received from both the Planning Board and Conservation Commission on the initial site plan submission, the site plan was revised and the facility was relocated approximately 65 feet west on A Street to increase the setback of the facility from the Sudbury River, to maintain existing vegetated buffers, and to maintain the scenic viewshed. In addition, as a result of this revision, the facility is no longer located within the 100 year flood zone.

Framingham Department of Public Works Comments – Per Letter Dated 9/23/09:

- DPW is working directly with SEA Consultants, Inc. on the design of the A Street Wastewater Management Facility site plan to ensure its conformance with the Town of Framingham's construction standards.

Framingham Police Department Comments – Per Letter Dated 8/26/09:

Will the pedestrian traffic be impacted as the sidewalk is located on the construction side of the street during the construction period?

- Pedestrian traffic will be impacted by construction of the A Street WWMF, primarily due to construction vehicles entering and exiting the facility at the proposed curb cut. The existing sidewalk will also be impacted during installation of utility lines from the mains in the street and onto the site. Provisions will be made to maintain safe pedestrian access during construction, including if necessary, the installation of a temporary pedestrian lane on the opposite side of the street that bypasses the entrance to the site. A traffic management plan will be developed subject to review and approval by the Police Department and coordinated with the School Department prior to construction. In addition, the plan will include notifications to residents on A Street.

- A new sidewalk will be constructed along A Street from the easterly property line abutting the existing gas station to the limit of construction at the conclusion of the project.

What will be the increase in volume of A Street traffic with construction equipment and its effect during the school year?

- The volume of traffic entering and exiting the site during construction is a function of the Contractor's means, methods and sequence of operations. However, it is estimated that the heavier construction vehicle volume will occur during construction of the below-grade portion of the A Street WWMF, which includes the wet well and dry well, and during excavation of the site. Construction of the wet and dry wells will require excavation and removal of approximately 4,000 cubic yards (CY) of earthen and rock material over the course of approximately 8 weeks, or an average of approximately 500 CY per week, or 100 CY per day. Assuming 10 CY of material removed per truck results in an average of 10 dump truck trips per day, in addition to other miscellaneous trips, during this stage of the work. Constructing the walls and slabs of the wet and dry wells will require placement of approximately 1,300 CY of reinforced concrete which will generate similar traffic volumes.

- Approximately 10,000 CY of earthen material will be removed from areas outside the perimeter of the wet and dry well. This phase of the work will generate approximately 15 – 20 dump truck trips to the site per day over the course of approximately 10 weeks.

- The approximate duration of construction for the A Street WWMF is two (2) years. Therefore, limiting construction activity to periods when school is not in session is not practical, as it will significantly extend the overall construction period. The schedule for work on A Street will be coordinated with the School Department and mitigation plans will be developed during construction to minimize impacts to bus routing and pedestrians walking to the High School. In addition, the Planning Board typically limits the hours of outdoor construction in its decisions. DPW will work with the Planning Board to include a condition of approval regarding the hours of outdoor construction.

Will the construction traffic be limited to entering and exiting only one end of A Street?

- The bid documents will be structured so that major construction vehicles (e.g. dump trucks, concrete trucks) access the site from Concord Street (north of A Street), to minimize the amount of construction vehicles traveling on A Street. DPW will work with the Planning Board to include this as a condition of approval.

Framingham Fire Department Comments – Per Letter Dated 8/21/09:

- The DPW has reviewed the comments with the Fire Department and is incorporating the required revisions on the plans and within the specifications. The project will comply with the requirements of the Fire Department.

II. RESPONSES TO PLANNING BOARD COMMENTS

Planning Department Comments – Per Electronic Mail Dated 9/10/09:

Please note that the Draft Development Impact Statement dated August 2009 will be revised and resubmitted to incorporate comments received during the site plan review process.

Traffic Impacts

- Please refer to the revised Traffic Impact Assessment dated September 2009.

- It is estimated that the proposed facility will add an average of approximately 10 additional vehicles per day, with an estimated increase in peak hour vehicles of 1 to 2 vehicles per hour. It is anticipated that the PM peak will not be affected since most routine traffic will occur during the work hours of 7:00 AM to 3:00 PM. The site is designed with 7 off-street parking spaces, including one handicap space, located in the front of the site to provide parking for DPW staff. The estimated trip generation from this site is estimated as follows:

  Daily traffic: DPW staff will be visiting the site daily for routine operations and maintenance of the facility and the collection system in North Framingham. The trip generation is estimated at 4 visits per day, between the hours of 7:00 AM and 3:00 PM, for a total of 8 trips per day and an additional 2 trips per day to account for occasional deliveries. The daily traffic from the site will have an insignificant impact to the PM peak hour traffic volumes, as the trips are trips are expected to occur before 4 PM.

- This site will not adversely impact to the existing time delays and Level of Service at the A Street intersection with Concord Street; the Concord Street intersection with School Street; and the Central Street intersection with Concord Street. The Level of Service for all impacted intersections should remain at current operational levels. It should be noted that the Planned Unit Development and the 2 School Street project are required to provide signalized traffic improvements at the A Street and School Street intersections.

- Reference is made to the Memorandum dated October 31, 2008, to Mr. Tony Kwan, from Robert Michaud (MDM Transportation Consultants, Inc.) regarding the Proposed Saxonville Riverview Plaza / 2 School Street proposal. A copy of this memorandum will be submitted to the Planning Board under separate cover. The results of the intersection capacity analysis in 2008 indicated that all movements from A Street onto Concord Street operate at a Level of Service of E and F during the AM and PM peaks, respectively. This is primarily due to the traffic associated with the High School and queue impacts at the adjacent Concord Street / School Street intersection resulting in periodic blockages at A Street. As noted above, adding one additional peak hour vehicle trip onto A Street from the proposed site will not measurably degrade the levels of service currently experienced throughout the adjacent roadway network. In addition, the A Street intersection is proposed to be signalized as part of the recently approved project for 2 School Street. This will improve the level of service of this intersection.

Environmental Impact Standards

- Please refer to the revised Environmental Impact Assessment dated September 2009.

- In response to the relocation of the facility and based on comments received from the Planning Board and Conservation Commission, a Stormwater Management Report has been developed since submission of the initial site plan and Draft Development Impact Statement and has been provided to the Planning Department for review and comment.

- A Photometrics Plan of the site lighting is provided on Sheet 7A in the revised set of site drawings. Based on the photometrics analysis, no light spillover will occur on neighboring properties and minimal light spillover will occur into the north side of A Street. Glare will be minimized by utilizing shrouded downward angle lighting. Motion lights and timers will be provided where feasible except for necessary security lighting to reduce overall night time light levels at the facility.

Fiscal Impact Standards

- Please refer to the Fiscal Impact Assessment in the revised Development Impact Statement, dated September 2009.

Community Impact Standards

- Please refer to the Community Impact Assessment in the revised Development Impact Statement, dated September 2009.

- The roofing material on the front portion of the building will be modified to include asphalt architectural shingles, slate, or similar looking material.

- The proposed location of the facility was moved towards the southern end of the site to minimize clearing and maintain the largest possible wooded buffer between the limit of clearing and the riverbank.

- Landscaping and an ornamental fence will be installed along the portion of the facility facing A Street to maintain the general character of the neighborhood. The site plan documents include the landscaping plan and fencing details.

- The total height of the facility relative to grade has been designed to be consistent to that of a two story residential house.

Parking Standards

- Please refer to the Parking Impact Assessment in the revised Development Impact Statement, dated September 2009.

- Seven (7) parking spaces, including one handicapped parking space, are provided at the front of the facility, whereas a total of five (5) parking spaces are required.
    - All parking spaces are located beyond the allowable 15 foot parking setback limit.
    - The width of the drive entrance has been reduced from 26 feet to 24 feet to reduce the impervious lot coverage and to eliminate the need for a special permit from the Planning Board for dimensional relief to off-street parking requirements.

III. RESPONSES TO QUESTIONS POSED AT PUBLIC HEARING DATED 9/10/09

Why does the A Street WWMF have to be located at the proposed site? Why can't it be located in a different area of Town?

- A siting alternatives analysis was prepared prior to development of the site plan for the Wastewater Management Facility. It has been submitted to the Planning Board for review.
- The A Street Wastewater Management Facility (WWMF) is designed to provide several functions in the operation and management of the Town's wastewater collection system. The primary purpose is to collect and convey wastewater from northeast Framingham. Over 30 percent of the Town's wastewater is generated in the vicinity of Saxonville. The area along the Sudbury River is the lowest topographic elevation in the Town and all wastewater from the Saxonville area currently flows by gravity towards the vicinity of Concord Street near the Sudbury River. Wastewater collected at this low point of the system must be pumped to the Town's connection with Massachusetts Water Resources Authority wastewater collection system located at Arthur Street in southeastern Framingham.
- The existing Henry King pump station at the end of Watson Place has reached the end of its useful life. Options to rehabilitate the existing pumping station were investigated, but eventually deemed infeasible during the alternatives analysis, due in part to the limited footprint of the site, the need to maintain existing sewage flows during construction, and the need to provide the necessary operation and maintenance functionality to support the long term needs of the wastewater collection system.
- The primary purpose of the proposed A Street Wastewater Management Facility (WWMF) is for the pumping of wastewater from the Saxonville area. Equally important, and as required by the Department of Environmental Protection's Administrative Consent Order, the facility will provide for the overall operation and maintenance of the wastewater collection system in the northern end of Town. The facility is approximately 60% larger than the existing pumping station at Watson

Place. The facility will be taking the place of both the Henry King and Speen Street pump stations which are poorly-configured stations. At the existing Watson Place facility, there are inadequate facilities to store equipment and much of the work requires interfering with a private facility access. There is no space available to store equipment at the Speen Street pump station.

Currently equipment stored at Watson Place must be either driven from the DPW facility on Western Avenue or removed from the Watson Place facility using an overhead crane. In the event of an emergency or unforeseen maintenance event, time is of the essence. The amount of time required to deploy the proper equipment needed to initiate sewer repairs given an emergency event like a significant rainfall and flooding event or snowstorm could be substantial. The equipment that may be required to respond to routine sewer system operation and maintenance activities or emergency repair situations includes trailer mounted and portable pumps generators, and compressors, trailer mounted light towers and sign boards, and sewer inspection and cleaning equipment, pump repair supplies, and other critical forward-staged pieces. The main DPW facility is located almost 5 miles from this location. Providing some equipment staging capability at the new facility is vital to provide proper future operation, maintenance, and management of the Town's wastewater infrastructure located more remotely from the main DPW facility.

- It is possible to re-route wastewater flow currently entering the Speen Street Pumping Station to the proposed A Street WWMF by constructing a new gravity interceptor sewer along the abandoned railroad right-of-way. However, given the topography, it is not feasible to re-route existing flows from the Saxonville area towards Speen Street, as it would require construction of approximately 1 mile of sewer at consistent depths of 25 – 35 feet, and approaching 40 feet in some locations. In addition, if located at Speen Street, the depth of the wet well would be significantly deeper than that proposed at the A Street WWMF. Therefore, the pump stations and associated force mains would be required. It is critical to meeting the requirements of the Massachusetts Water Resources Authority's Settlement Agreement that the Town reduce the current length of the force mains associated with both existing pump stations to conform to the MWRA's requirement to mitigate sulfide generation in the collection system.

Why does the facility have to be located at the A Street Site when it appears there are other sites in the area?

The evaluation of potential sites for the facility was detailed and took into account several factors. The factors included:

- *Lot size* – the facility requires an appropriate footprint to allow for the functionality of the facility, access, and buffer to surrounding properties. Some locations were deemed infeasible due to small lot size.

- *Constructability/Technical* – topography and the depth of the wastewater collection system influences the ability to construct a facility that can collect and pump the wastewater. This substantially limited the locations available to those in the vicinity of the Sudbury River near Concord and A Streets. Compared to other potential sites in the area, the A Street parcel has some areas of its site located above the 100 year flood elevation, which will protect the key mechanical and electrical components of the facility.

- *Reducing vulnerability* – the current system configuration requires wastewater collected from the south side of the Sudbury River to cross the river twice, once through an existing siphon en-route to the existing Henry King pumping station at the end of Watson Place, and again as it is pumping into a force main located under the Sudbury River. Moving the facility to the south of Sudbury River reduces the number of times flow crosses the river and reduces the vulnerability associated with multiple river crossings.

- *Simplified infrastructure* – placing the facility on the south side of the river eliminates the need for a siphon, which is a less preferred sewer conveyance element. Siphons are difficult to maintain, contribute to hydrogen sulfide formation, and increase the potential for sewage overflows.

- *Land Ownership* – concern regarding the taking of land from private property owners was a major consideration. Uncertainty associated with the time frame needed to either acquire private property or perform a land taking, and thus potentially jeopardizing the Town's ability to meet the mandated Administrative Consent Order dates by the Department of Environmental Protection and the Settlement Agreement with the Massachusetts Water Resources Authority, gave preference to any sites that are already owned by the Town.

Why construct a fueling dispenser at the proposed A Street WWMF?

- The purpose for including fueling at the A Street WWMF was two fold. The WWMF will be used to house sewer operation and maintenance equipment. Having the ability to refuel this equipment, particularly when responding to emergency situations such as sewer breaks, is critical. The DPW's only fueling facility is at Western Avenue which is located in the Town's most southerly point, almost 5 miles from the proposed WWMF. In addition, if a fueling capability were present at the WWMF it might also have been utilized during winter snow removal operations. While a

fueling option on the north side of town would provide operational flexibility during snow storms, this use is not essential.

In response to the concerns raised by the Board and abutters, any fueling capability at this location would be limited to that required to directly support the operation and maintenance of the sewer system. Since diesel fuel will be present at the site to supply the building's emergency generators and the majority of the Sewer Department vehicles and equipment are diesel powered, we believe a diesel fuel dispenser is an important component of this facility. Operational protocols and the DPW's fuel management system will ensure that the use of the fueling dispenser will be limited to the Sewer Department. Given that only a limited amount of the sewer equipment is gasoline powered and gasoline is not needed to power the building in the event of an electrical outage, the proposed gasoline storage tank and associated dispenser has been eliminated from the design.

What kind of odors will be generated at the facility?

- People often link wastewater to offensive odors. While odors from wastewater can be found at wastewater treatment facilities, it is far less commonplace for odors to be frequently found as part of wastewater collection systems. When odors are connected with the operation of a wastewater collection system, they are often isolated and related to poor design or a failure in the operation and maintenance of the system. The Town operates fifty wastewater pumping stations and has over 250 miles of gravity sewers. The DPW is responsible for the operation and maintenance of the wastewater collection system and would respond to any odor complaints associated with the wastewater collection system or pump stations.

- With the exception of the two newest medium-sized wastewater pumping stations (Hemenway Road Pump Station and Fenwick Street Pump Station) there are no active odor control systems within the collection system or at any other wastewater pumping stations. The DPW provides routine preventative maintenance of all the pumping stations. Additionally, design attributes have been incorporated which prevent the formation of odors. The Hemenway Road and Central Street facilities use odor absorbent systems that utilize activated carbon to mitigate odors that may be produced in the wet well area of the pump station. The wet wells at these facilities are not designed for routine entry and odor control using this technology is widely used throughout Massachusetts and the United States.

- Odors are not anticipated to occur at this facility; however our engineering practice is to provide an odor control system in the design in the event of any unforeseen conditions. Properly designed and maintained wastewater management systems are free of negative odors. Typical odors, if perceived, have a mild earthy odor.

At the A Street Wastewater Management Facility, four separate principles to odor prevention and containment are being integrated into the proposed design.

- *Prevention* - Odor causing substances are largely associated with specific elements of the collection and treatment plant processes. The area served by the A Street WWMF includes the Hemenway Road Wastewater Pumping Station, which currently discharges to gravity sewers that flow to the existing Saxonville Pumping Station located at the end of Watson Place, and eventually to the proposed A Street WWMF once it is constructed. The Hemenway Road Wastewater Pumping Station was reconstructed less than five years ago and provisions were put into the facility to add natural nutrients to the wastewater which will prevent the formation of odor causing substances. Additionally, the discharge from the Hemenway Road PS is almost 10,000 feet from the proposed A Street WWMF. This provides significant time to allow odors to be mitigated in the pipe system.

- *Containment* - It should be noted that all wastewater collected and conveyed in the Town of Framingham is treated at the Deer Island Wastewater Treatment Plant in Winthrop. The A Street facility is a collection and conveyance facility and only serves as a quick collection point for immediate transfer to the downstream gravity sewer system which ultimately discharges to the MWRA's collection system at its connection point on Arthur Street. All wastewater at the A Street facility will inflow through closed gravity sewers into an enclosed wet well. After collection in the wet well, the wastewater will be conveyed utilizing 5 pumps ranging in size from 2.6 million gallons per day (mgd) to 7.6 mgd with a total capacity of 13 mgd, to new downstream gravity sewers located on Concord Street. The wet well structure is located entirely below grade, approximately 35 feet, and can be accessed through a single door. The wet well will be accessed only by DPW personnel to assess the condition of equipment, operate valves and verify operation of systems. The wet well is considered a confined space by the Federal Occupational Safety and Health Administration and measures to protect the health and safety of employees must be incorporated into the design. These measures include the ventilation of the space. A duplex ventilation system is provided in the wet well. The first system provides constant minimal ventilation to reduce the moisture accumulation and provide a steady stream of fresh air to the area. The second provides a high volume ventilation system during wet well occupancy, which will occur approximately once per day for about 15 minutes. These are required by the Massachusetts Department of Environmental Protection. All air ventilated from the wet well will be treated using the odor control system, which is activated carbon, prior to discharge via vents located on the roof of the building. This system is described in more detail below.

- *Minimization* - As mentioned earlier one of the factors in the creation of odors is the holding or storage of wastewater. The wet well of the facility has been designed to maintain as small a volume of wastewater as possible. The pumping equipment

provided at the station was designed to provide a high level of flexibility to minimize the size of the wet well. The new facility will have more than two times the capacity of the existing Saxonville PS, but the wet well is less than 50 percent larger. This results in reduced wastewater detention times and virtually eliminates the likelihood of odor generation.

- *Control* - Lastly, good engineering practice dictates that odor control measures be incorporated into a facility of this size, even when the likelihood of odor generation is minimal. There are several types of methodologies and technologies that could be incorporated into a facility of this nature. The technology chosen for this particular facility is identical to that already present at the two newest pump stations in Town and provides the highest level of control for the odors that may occur at the facility. Activated Carbon is placed in a large vessel and air from the wet well area is constantly passed over and through the carbon media. Activated carbon provides approximately 99% removal of the odor generating compounds and represents the best technology for this application.

How will construction of the facility affect my property values?

The Town has over 50 pumping stations, the majority of which are located in residential areas. Although it is acknowledged that there are overall negative connotations associated with a wastewater facility such as this, the new facility is being designed to mitigate potential negative aspects associated with similar facilities. There are several factors that should be considered with respect to property valuations:

- The architecture was selected to blend into and be consistent with the architecture found in the Saxonville neighborhood. The style, materials of construction, and configuration all provide a facility that will not impose on the surrounding neighborhood. In contrast, there are several other structures within the area that may be considered less than desirable for local property values.

- The existing site does not have beneficial use in its current state. The current site is largely scrub and non-value vegetation. The site was formerly used as a disposal site for construction debris and the surface has large mounds of asphalt and concrete materials. Surface debris also noted includes alcoholic beverage containers and other food packaging materials. Geotechnical investigations indicate that more then 10 feet of fill and non-native material (debris) is buried on-site. The site will not readily support higher value vegetation without substantial remediation.

- The facility will be screened from surrounding properties on A Street and from views along Concord Street by incorporating new landscape plantings and maintaining existing natural vegetated buffers along each perimeter of the project site. The design provides several elements to reduce the imposition of the facility and any operations

that will take place at the site. The entrance is located near Concord Street, which will reduce traffic flow. Also, the facility is centered on the site to maximize existing borders and allow natural vegetation to provide primary screening. Additional landscaping features, including additional year round screening if warranted, is proposed to reduce the visual impact of the facility on the properties on the south side of A Street.

How will blasting to excavate rock located below ground affect my house?

- Controlled blasting is commonly used in construction as a means to loosen rock to ease excavation and removal. Compared to other rock removal methods, blasting is expected to result in the least impact on the neighborhood during construction, both in terms of the noise generated and the duration required to loosen and remove the rock. Other mechanical methods to loosen rock, such as jack hammering, would result in greater noise levels for a longer period of time. Blasting is a construction method that is successfully performed in residential areas, including in proximity to buildings and other structures.

- The blasting contractor will be licensed and required to demonstrate experience with similar excavations in rock. Controlled blasting will be conducted in accordance with federal, state and local requirements, as well as the U.S. Occupational Safety and Health Administration. The contractor will also be required to submit a plan to the Town for review and approval by the Department of Public Works and the Fire Department prior to initiating any controlled blasting. The plan will include pre-blast surveys of adjacent homes consisting of a physical examination, photographs and/or videotape of the building interior and exterior to document existing conditions.

- Large mats will be placed over the excavation area prior to initiating controlled blasting to absorb energy, prevent the release of debris, and minimize noise. Moreover, the contractor shall conduct vibration monitoring at the ground surface immediately adjacent to existing structures during blasting operations to ensure vibration levels are below federal published values.

- The Planning Board has a standard condition that specifies blasting protocols and safety. These protocols have been developed with the Fire Department for other projects. The DPW will comply with this condition of approval.

Will there be noise and vibration impacts resulting from operation of the facility?

- The pumps and supporting mechanical equipment located at the A Street Wastewater Management Facility will be located approximately 35 feet below grade and noise or vibration impacts are not expected during their operation. Heating, ventilation, and air

conditioning units will be located on the back roof of the building. These units will be screened with a roof dormer and will incorporate noise attenuating insulation.

- Since the facility must be capable of operation during a power failure, standby generators are provided at grade on the westerly side of the site. The standby generators will be inspected and tested approximately quarterly to ensure their readiness, however, this will only occur during normal workday hours. The generators are enclosed in cabinets with noise attenuating insulation and are provided with exhaust mufflers.

What are the hours of construction?

As noted previously, the DPW will work with the Planning Board to determine the hours of outside construction.

Please provide 360° views of the proposed facility.

- The site plan includes architectural renderings of each side of the facility. In addition, color isometric renderings of the facility from multiple views will be provided to the Planning Board for review.

Construction Sequencing

- The construction sequencing is provided on Sheet G-3 of the site plans.